

The opinion in support of the decision being entered today
is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JUDITH M. VANDEWINCKEL, VINCENZO G. MARCELLO,
GRAYZNA E. KMIETIK-LAWRYNOWICZ,
TIE HWEE NG, and CHIEH-MIN CHENG

Appeal 2007-4185
Application 10/743,097
Technology Center 1700

Decided: September 26, 2007

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
THOMAS A. WALTZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

DECISION ON APPEAL

Applicants appeal to the Board from the decision of the Primary Examiner finally rejecting claims 1 through 19 in the Office Action mailed March 31, 2006. 35 U.S.C. §§ 6 and 134(a) (2002); 37 C.F.R. § 41.31(a) (2006).

We AFFIRM the decision of the Primary Examiner.

Claim 1 illustrates Appellants' invention of a toner including toner particles, and is representative of the claims on appeal:

1. A toner including toner particles comprising a styrene acrylate binder and at least one colorant, and wherein the styrene acrylate binder has a weight average molecular weight of about 20 to about 30 kpse and a molecular peak of about 23 to about 28 kpse, the toner particles have a weight average molecular weight of about 28 to 130 kpse, a number average molecular weight of about 9 to about 13.4 kpse and a MWD of about 2.2 to about 10, and the toner particles have a cohesion of about 55 to about 98% at a mean circularity of about 0.94 to about 0.98.

The Examiner considers the evidence in this reference:

Combes

US 6,673,501 B1

Jan. 6, 2004

Appellants request review of the ground of rejection claims 1 through 19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention (Br. 7; Answer 3-8).

Appellants argue the claims as a group, and thus, we decide this appeal based on claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2006).

The issue in this appeal is whether the Examiner has established that, *prima facie*,¹ when the claim language “the toner particles have a cohesion of about 55 to about 98% at a mean circularity of about 0.94 to about 0.98” of claim 1 is considered as a whole as well as in view of the written description in the Specification as it would be interpreted by one of ordinary skill in the art, the claims in fact fail to set out and circumscribe a particular area with a

¹ The initial burden of establishing a *prima facie* case under § 112, second paragraph or any other statutory provision rests with the Examiner. *See*

reasonable degree of precision and particularity, *see In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971), such that “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *See The Beachcombers, Int’l. v. WildeWood Creative Prods.*, 31 F.3d 1154, 1158, 31 USPQ2d 1653, 1656 (Fed. Cir. 1994) (*quoting Orthokinetics, Inc v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986)); *see also In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994).

Appellants disclose emulsion aggregation toners wherein the toner particles comprise at least a styrene acrylate binder and at least one colorant, which are defined in claim 1 in part by the subject limitation, “the toner particles have a cohesion of about 55 to about 98% at a mean circularity of about 0.94 to about 0.98.” There is no dispute the disclosure in the Specification respecting this claim limitation is limited to the following:

[0034] Another significant property associated with the toners of the present invention is the cohesivity of the particles prior to inclusion of any external additives. The greater the cohesivity, the less the toner particles are able to flow. It was surprisingly found in the present invention that the cohesivity of the toner particles, prior to inclusion of any external additives, should be from about 55 to about 98% for all colors of the toner. Cohesivity was measured by placing a known mass of toner, for example two grams, on top of a set of three screens, for example with screen meshes of 53 microns, 45 microns, and 38 microns in order from top to bottom, and vibrating the screens and toner for a fixed time at a fixed vibration amplitude, for example for 115 seconds at a

In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992), (*citing In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984)).

1 millimeter vibration amplitude. A device to perform this measurement is a Hosokawa Powders Tester, available from Micron Powders Systems. The toner cohesion value is related to the amount of toner remaining on each of the screens at the end of the time. A cohesion value of 100% corresponds to all of the toner remaining on the top screen at the end of the vibration step and a cohesion value of zero corresponds to all of the toner passing through all three screens, that is, no toner remaining on any of the three screens at the end of the vibration step. The higher the cohesion value, the lesser the flowability of the toner.

Specification 9.

The Examiner contends, that as claimed, the “cohesion” is specified as “a numerical value,” and neither the claim language as a whole nor the above disclosure in the Specification “provide a definition of the term or how to calculate or measure the value,” such that one of ordinary skill in the art would not “be reasonably apprised of the claimed ‘cohesion’ value” (Answer 3). The Examiner finds that in the disclosure, “cohesion” is measured by placing any amount of toner on the top screen of any three screen sieve, the screens of descending size, and vibrating the sieve in any manner for any period of time (*id.* 4). The Examiner finds the “‘cohesion’ value is related to the amount of toner remaining on the screens at the end of time,” with “[a] cohesion value of 100% [corresponding] to all of the toner remaining on the top screen at the end of the vibration step and a cohesion value of zero [corresponding] to all of the toner passing through all three screens,” such that “the higher the cohesion values the lesser the flowability of the toner” (*id.*).

The Examiner contends the claims “are indefinite because it is unclear how the cohesion value is actually calculated,” finding it “unclear

how much of the toner needs to be retained on any one, all, or some combination of screens in order to obtain a cohesion value according to the claims (Answer 4). The Examiner further determines “[t]he cohesion value appears to be a result of not only the toner but the mesh sizes of the sieves, the time of vibration, the amplitude of vibration, and the number of sieves, and the manner in which the value is calculated” (*id.*). In this respect, the Examiner finds the amount of toner, the mesh sizes of the screens in the sieve, the vibration timer period and amplitude stated in the disclosure as “for example” and would be seen as non-limiting by one of ordinary skill in the art (*id.* 4 and 5). The Examiner contends the Specification provides no guidance in these respects and thus, it is unclear if different screen sizes can be used, which along with different vibration times and intensities would affect the amount of toner remaining on the screens (*id.* 4 and 5). The Examiner explains “the length of time of shaking and intensity would affect the amount of toner remaining on each screen because more vigorous or lengthy shaking would break apart more toner aggregates while less shaking would not” (*id.*).

The Examiner contends that contrary to Appellants’ position that the “values of cohesion are calculated by a well-known formula,” there is no formula disclosed in the Specification and thus, it “is not clear from the specification . . . how the cohesion value is determined when less than all of the toner is retained on the top screen” (Answer 5, citing Br. 5). In considering the disclosure at col. 48, ll. 21-44, of Combes, which discloses “[t]he percent cohesion is calculated as follows: % cohesion = 50A + 30B + 10C,” wherein “[t]he equation applies a weighting factor proportionally to

screen size” and the screen sizes are specified,² the Examiner finds Combes provides further evidence the claims are indefinite (Answer 6). The Examiner points out Combes employs different vibration time and different screen sizes than illustrated in the Specification, contending different test parameters are known in the art and one of ordinary skill would expect different amounts of the toner to be retained on Combes’ screens, e.g., 150 μm screen, easily passing therethrough compared to those in the Specification, e.g., 38 μm screen, which would retain the same particles (Answer 6-7).

The Examiner further contends that contrary to Appellants’ position, “there is no definition of the test in the claims or the specification” (Answer 7). The Examiner contends there is no disclosure in the Specification “that the amount of toner on each screen is measured and multiplied by a factor as in Combes;” “that the formula of Combes, which is used for different screen sizes, can be used with the specification exemplary screen sizes when measuring cohesion;” and that Combes’ weight factor for different screen sizes can be used with the screen sizes illustrated in the Specification (Answer 7-8). The Examiner finds the disclosure in the Specification does not reference or incorporate Combes or other document for the measurement of cohesion, and Combes cannot be relied on by Appellants because the reference discloses different measurement parameters than illustrated in the disclosure in the Specification (*id.* 8).

On this record, we determine the Examiner has established a prima facie case of non-compliance with § 112, second paragraph. We are not

² The Examiner reproduces the passage from Combes (Answer 6).

convinced Appellants' arguments, to the extent supported by the record,³ sufficiently rebut the prima facie case. Appellants contend Combes evinces the formula set forth therein is known in the art, and when applied to the disclosure in the Specification, shows that "the only way to get 100% value" in the disclosed example, is when all 2 grams are on the top screen, leading to the calculation "cohesion = $50(2) + 30(0) + 10(0)$, or 100%," (Br. 9-10; *see also* Vandewinckel Declaration ¶ 5; Reply Br. 1-2). Thus, Appellants contend this establishes "the specification indicates that the cohesion value of the present application is calculated using the well known equation" (Br. 10). Appellants contend "one would select appropriate screen sizes where the toner particles could theoretically pass through all the screens" because

³ We have not considered the arguments submitted by Appellants in the Brief and Reply Brief, or the testimonial evidence in Ms. Vandewinckel's Declaration Under 37 C.F.R. § 1.136 (Vandewinckel Declaration) as submitted in the Amendment After Final Rejection filed June 29, 2006 (Amendment), to the extent the arguments and testimonial evidence are based in any manner on one or more of three documents which were not submitted with the Amendment as pointed out by the Examiner in the Advisory Action mailed July 12, 2006 (Advisory Action 3). Appellants submitted the three document in the Evidence Appendix to the Brief. The Examiner holds the three documents inadmissible because they were "first submitted at the filling of the Brief," pointing out the "evidence was never submitted before Appeal and applicants were made aware of this before Appeal was taken" (Answer 2). We agree with the Examiner. *See* 37 C.F.R. §§ 41.33(d)(2) and 41.33(c)(1)(ix) (2006); *cf., e.g., In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) ("This court has said ... that mere lawyers' arguments unsupported by factual evidence are insufficient to establish unexpected results. [Citations omitted.] Likewise, mere conclusory statements in the specification and affidavits are entitled to little weight when the Patent Office questions the efficacy of those statements. [Citations omitted]").

otherwise, cohesion would not be accurately determined” (Reply Br. 2). Appellants contend the disclosure in the Specification provides reasonable “guidance to the parameters to obtain the cohesion value,” with “[s]pecific values” disclosed that “may desirably be used,” and the use of an illustrative example “should not discount this specific guidance” or indicate that different screen sizes cannot be used (*id.* 3-4).

The difficulty we have with Appellants’ arguments is that the same do not explain the manner in which one of ordinary skill in this art would determine appropriate “theoretical” screen sizes for each of the three screens in the sieve to ensure that a “particle” of *aggregated, cohesive* toner “particles” passes through all screens absent a desired aggregated tone particle size range, so as to result in a value to compare with the claimed cohesion range. Indeed, a possible result under this protocol is that all or almost all particles can and may pass through the screens, resulting in a false cohesion value. Furthermore, as the Examiner points out, the particle size of the aggregated toner particles, and thus the cohesion value, can be modified under test conditions with respect to the amount of the sample and the vibration parameters. In these respects, the formula set forth in Combes on which Appellants rely assumes a controlled test, and even then provides for a screen size weighting factor. On this record, we are of the opinion that the Specification does not disclose the details of the test to determine “cohesion” as claimed to one of ordinary skill in the art in a definite manner.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of indefiniteness of the claim language set forth by the Examiner with Appellants’ countervailing

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evidence of and argument for definiteness, and conclude that claims 1 through 19 fail to set out and circumscribe a particular area with a reasonable degree of precision and particularity such that one skilled in this art would understand what is claimed when the claim is read in light of the specification, and therefore, does not comply with 35 U.S.C. § 112, second paragraph.

The Primary Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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